REMARKS

Responsive to the Office Action dated July 13, 2004, Applicant hereby makes the following response. In this Amendment, Applicant has amended Claims 1, 8 and 15 and has canceled Claims 2, 3, 9, 10, 16, 17, and 23-44. Accordingly, Claims 1, 5-8, 12-15, and 19-22 remain pending for prosecution with Claims 1, 8, and 15 being independent.

Applicant appreciates the withdrawal of the objection to the disclosure and the rejection of claim 27 under 35 U.S.C. § 112, second paragraph.

The objection to Claim 26 is rendered moot by its cancellation in this Amendment. Withdrawal of this objection is therefore respectfully requested.

I. Summary of the Claims

Independent Claim 1, as amended, recites a battery comprising a positive electrode and a negative electrode having a current collector selected from the group consisting of a metal foil and a copper foil covering a metal, the metal foil and the metal being separately selected from the group consisting of gold, silver, and palladium. Claim 1 also recites an electrolyte including a polymer compound selected from the group consisting of radically-polymerized monofunctional monomers, multifunctional monomers, and mixtures thereof wherein the polymer compound is synthesized by polymerization at 95°C or lower.

Independent Claim 8, as amended, recites a battery comprising a positive electrode, a separator, and a negative electrode having a current collector selected from the group consisting of a metal foil and a copper foil covering a metal, the metal foil and the metal being separately selected from the group consisting of gold, silver, and palladium. Claim 8 also recites an electrolyte including a polymer compound selected from the group consisting of radically-

polymerized monofunctional monomers, multifunctional monomers, and mixtures thereof wherein the polymer compound is synthesized by polymerization at 95°C or lower.

Independent Claim 15, as amended, recites a battery comprising a battery device including a positive electrode, a negative electrode, an electrolyte, and a package member enclosing the battery device. The negative electrode having a current collector selected from the group consisting of a metal foil and a copper foil covering a metal, the metal foil and the metal being separately selected from the group consisting of gold, silver, and palladium. Claim 15 also recites an electrolyte including a polymer compound selected from the group consisting of radically-polymerized monofunctional monomers, multifunctional monomers, and mixtures thereof wherein the polymer compound is synthesized by polymerization at 95°C or lower.

II. The 35 U.S.C. § 102(e) Rejections

A. Rejection of Claims 23-27, 42 and 44 over Skotheim

Claims 23-27, 42 and 44 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,482,545 to Skotheim et al.. In this Amendment, Claims 23-27, 42 and 44 were canceled thereby rendering this rejection moot. Withdrawal of this rejection is therefore respectfully requested.

B. Rejection of Claims 23-26, 28, 31-33 and 42-44 over Ochiai

Claims 23-26, 28, 31-33 and 42-44 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,569,572 to Ochai et al.. In this Amendment, Claims 23-26, 28, 31-33 and 42-44 were canceled thereby rendering this rejection moot. Withdrawal of this rejection is therefore respectfully requested.

III. The 35 U.S.C. § 103(a) Rejections

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

A. Rejection of Claims 1-3, 5-10, 12-17 & 19-21 over Nakanishi in view of Skotheim

Claims 1-3, 5-10, 12-17 and 19-21 have been rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,692,863 to Nakanishi et al. in view of U.S. Patent No. 6,482,545 to Skotheim et al.. For the following reasons, Applicant respectfully submits that the present invention is not obvious under 35 U.S.C. § 103(a) and requests reconsideration and withdrawal of this rejection.

Nakanishi does not teach or suggest the claimed invention. It is asserted in the Office Action that Nakanishi teaches a "negative electrode collector plate with a two-layer structure including a copper layer and a metal layer that does not form an intermetallic compound with lithium." Further, it is asserted that Nakanishi teaches that "the metal layer is a metal more noble than copper with respect to oxidation-reduction potential, such as nickel or chromium (col. 5, lines 40-41)." However, Applicant respectfully submits that there is no disclosure in Nakanishi at Column 5, lines 40-41 or anywhere else in the reference that "the metal layer is a metal more noble than copper with respect to oxidation-reduction potential." While Nakanishi does teach a both a copper layer and metal layer wherein the metal layer is nickel, stainless steel, titanium,

chromium or molybdenum, Nakanishi fails to teach or suggest a negative electrode current collector selected from the group consisting of a metal foil and a copper foil covering a metal wherein the metal foil and the metal is gold, silver, or palladium.

Moreover, there is no teaching, suggestion, or motivation in Nakanishi to use the multifunctional monomers of Skotheim in the electrolyte of Nakanishi. In fact, Nakanishi teaches away from the use of multifunctional monomers as described in Skotheim. At Column 14, lines 10-13, Nakanishi teaches that "[t]he electrolyte is prepared by mixing ethylene carbonate and diethyl carbonate together in a volume ratio of 1:1 and dissolving $LiPF_6$ in the solvent mixture at a concentration of 1 mole/liter." Skotheim teaches that a multifunctional monomer "pertains to molecules of low molecular weight (typically below about 6000) which possess two or more unsaturated aliphatic reactive moieties per molcule." (Col. 8, lines 48-51). The electrolyte of Nakanishi does not meet Skotheim's definition of multifunctional monomer and cannot therefore be said to teach or suggest the use of a multifunctional monomer as an electrolyte.

Prima facie obviousness requires that there must be a reasonable expectation of success when prior art is modified or combined. In the present application, there is no reasonable expectation of success in achieving the present invention as claimed when the cited references are combined. As discussed above, Nakanishi does not contain all the elements of independent Claims 1, 8 and 15 nor does Skotheim. Unless all the elements are taught by the reference, there can be no success in modifying them. Accordingly, independent Claims 1, 8 and 15 and the claims depending therefrom are nonobvious under 35 U.S.C. § 103(a).

B. Rejection of Claim 22 over Nakanishi in view of Skotheim in further view of Takami

Claim 22 has been rejected under 35 U.S.C. § 103(a) as obvious over Nakanishi in view of Skotheim and further in view of U.S. Patent No. 6,503,657 to Takami et al.. For the following reasons, Applicant respectfully submits that the present invention is not obvious under 35 U.S.C. § 103(a) and requests reconsideration and withdrawal of this § 103(a) rejection.

As discussed above, there is no teaching or suggestion in Nakanishi, Skotheim or a combination thereof to utilize a negative electrode current collector selected from the group consisting of a metal foil and a copper foil covering a metal wherein the metal foil and the metal is gold, silver, or palladium. Similarly, Nakanishi teaches away from the concept of using a radically-polymerized multifunctional monomer as an electrolyte polymer compound. The combination of Nakanishi and Skotheim is therefore inapposite. Similarly, Takami fails to teach or suggest a battery including a negative electrode current collector selected from the group consisting of a metal foil and a copper foil covering a metal wherein the metal foil and the metal is gold, silver, or palladium and an electrolyte composed of multifunctional monomers. Because Nakanishi teaches away from Skotheim's multifunctional monomers, the combination of Nakanishi, Skotheim and Takimi does not meet the requirement of a reasonable expectation of success when prior art references are modified or combined. Accordingly, Claim 22 is nonobvious under 35 U.S.C. § 103(a).

C. Rejection of Claims 29 and 30 over Ochiai in view of Nakanishi

Claims 29 and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ochiai and further in view of Nakanishi. In this Amendment, Claims 29 and 30 were canceled thereby rendering this rejection moot. Withdrawal of this rejection is therefore respectfully requested.

D. Rejection of Claims 36 and 37 over Ochai in view of Hamamoto

Claims 36 and 37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ochiai and further in view of U.S. Patent No. 6,436,582 to Hamamoto et al.. In this Amendment, Claims 36 and 37 were canceled thereby rendering this rejection moot. Withdrawal of this rejection is therefore respectfully requested.

E. Rejection of Claims 28, 31-36 & 38-41 over Skotheim in view of Takami

Claims 28, 31-36 and 38-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Skotheim and further in view of U.S. Patent No. 6,503,657. In this Amendment, Claims 28, 31-36 and 38-41 were canceled thereby rendering this rejection moot. Withdrawal of this rejection is therefore respectfully requested.

IV. Conclusion

Applicant respectfully requests withdrawal of the rejections and believes that the claims as presented represent allowable subject matter. Applicant further reserves the right to argue the foregoing rejections as they apply to canceled claims in the event the canceled claims are ever re-submitted for examination. If the Examiner desires, the applicant is ready for a telephone interview to expedite prosecution. As always, the Examiner is free to call the undersigned at 816.460.2516. Should any fees be necessitated by this response, the Commissioner is hereby authorized to deduct any such fees from Deposit Account No. 19-3140.

Respectfully submitted,

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